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CHAPTER 1: INTRODUCTION

1.1 K8NHA GRAND FEATURES

A. Hardware

CPU

- Supports Socket 754.
- Supports the AMD Athlon 64 Socket 754 processor
- Supports AMD Sempron Socket 754 processor

Chipset

- NVIDIA NF3 250Gb.
  - Hyper Transport link to the AMD Athlon 64 CPU.
  - Supports AGP 3.0 8x interface.
  - Supports system and power management.
  - Supports 4 IDE disk drives, integrated RAID 0, RAID 1 and RAID 0+1 functions.
  - Supports PIO Mode 5, Bride Mode and Ultra DMA 33/66/100/133 Bus Master Mode.
  - Supports USB 2.0, 8 ports.
  - Complaints with PCI Version 2.3 specification.
  - Complaints with AC'97 Version 2.3 specification.
  - Fast ATA/133 IDE controllers.

Main Memory

- Supports up to 2 DDR devices.
- Supports 200/266/333/400 MHz DDR devices.
- Certified DDR400+ List
  - Please check the website: http://www.biostar.com.tw/products/mainboard/board.php3?name=K8NHA%20Grand
- Maximum memory size is 2GB.

DIMM Socket Location	DDR Module	Total Memory Size (MB)
DIMM1	128MB/256MB/512MB/1GB *1	Max is 2 GB.
DIMM2	128MB/256MB/512MB/1GB *1	

Super I/O

- Chip: ITE IT8712F.
- Low Pin Count Interface.
- Provides the most commonly used legacy Super I/O functionality.
- Environment Control initiatives,
  - H/W Monitor
  - Fan Speed Controller
  - ITE's "Smart Guardian" function

Slots

- 5 x 32-bit PCI bus master slots.
- 1 x AGP 8x slot

On Board IDE

- Supports 2 IDE disk drives.
- Supports PIO mode 4, Block Mode and Ultra DMA 33/66/100/133 bus master mode.

10/100 LAN (optional)

- PHY: RTL8201BLC
- Supports 10 Mb/s and 100 Mb/s auto-negotiation.
- Half/Full duplex capability.

Gigabit LAN

- NVIDIA Gigabit MAC + CICADA Gigabit PHY (VSC8201)
- Supports 10 Mb/s, 100 Mb/s and 1Gb/s auto-negotiation.
- Half/Full duplex capability.
- Supports personal Firewall setup.
- Supports ACPI power management.
- Supports NVIDIA StreamThru technology
  - Isochronous controller paired with Hyper Transport results in fastest networking performance

Security

- NVIDIA Firewall technology
  - Native firewall solution
- Advanced features
  - Remote access, configuration, monitoring
  - Command line interface (CLI)
  - WMI scripts.

Serial ATA

- Supports 2 serial ATA (SATA) ports.
- Compliant with SATA 1.0 specification.
- Data transfer rates up to 150 MB/s

Storage

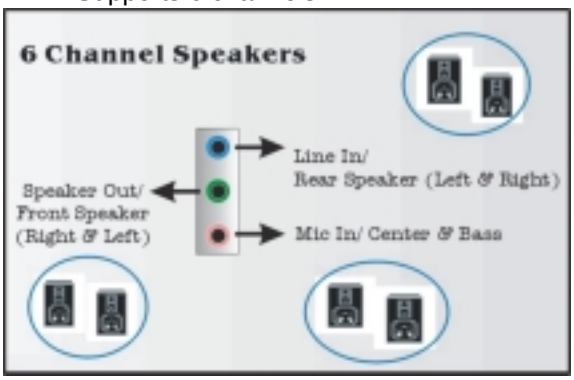
- NVIDIA RAID Technology
  - RAID 0 disk striping for highest system and application performance
  - RAID 1 disk mirroring support for fault tolerance Support for both SATA and ATA-133 disk controller standards
  - RAID 0+1 disk striping and mirroring for highest performance with fault tolerance

IEEE 1394A Chip

- Chip: VIA VT6307.
- Support 2 ports with transfer up to 400Mb/s.

On Board AC'97 Sound Codec

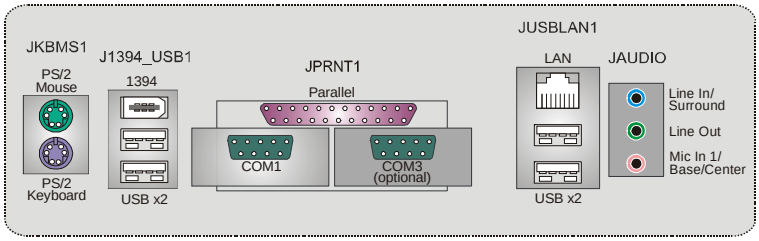
- Chip: ALC655
- Compliant with AC'97 Version 2.3 specification.
- Supports S/PDIF Out (optional function).
- Supports 6 channels.



On Board Peripherals

a. Rear side

- 1 parallel port.
- 1RJ-45 LAN jack.
- 1 IEEE1394 port.
- 1 Audio port.
- 1 PS/2 keyboard & mouse port.
- 2 serial ports (COM2 is optional).
- 4 USB 2.0 ports.



b. Front Side

- 4 USB2.0 ports.
- 1 Line-in port.
- 1 Line-out port.
- 1 IEEE1394 port.
- 1 S/PDIF out connector
- 1 floppy port supports 2 FDD with 360K, 720K, 1.2M, 1.44M and 2.88Mbytes.

Dimensions

- ATX Form Factor: 21.5x29.3cm (W x L)

B. BIOS & Software

BIOS

- Award legal BIOS.
- Supports APM1.2.
- Supports ACPI.
- Supports USB Function.

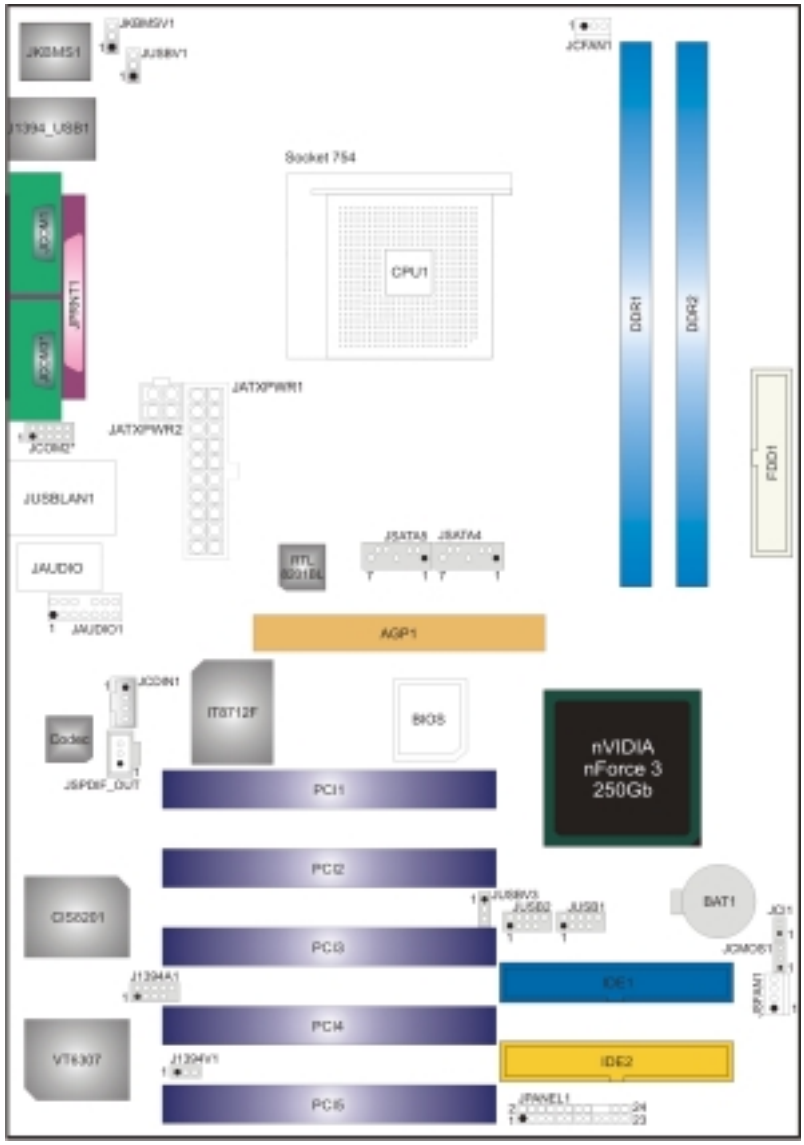
Software

- Supports Warpspeeder™, 9th Touch™, WINFLASHER™ and FLASHER™.
- Offers the highest performance for Windows 98 SE, Windows 2000, Windows Me, Windows XP, SCO UNIX etc.

1.2 PACKAGE CHECKLIST

- FDD Cable X 1
- HDD Cable X 1
- User's Manual X 1
- Fully Setup Driver CD X 1
- Rear I/O Panel for ATX Case X 1
- USB 2.0 Cable X1 (optional)
- S/PDIF Cable X 1 (optional)
- Serial ATA Cable X 1 (optional)
- IEEE 1394 Cable X 1 (optional)
- Serial ATA Power Switch Cable X 1 (optional)

1.3 LAYOUT OF K8NHA GRAND

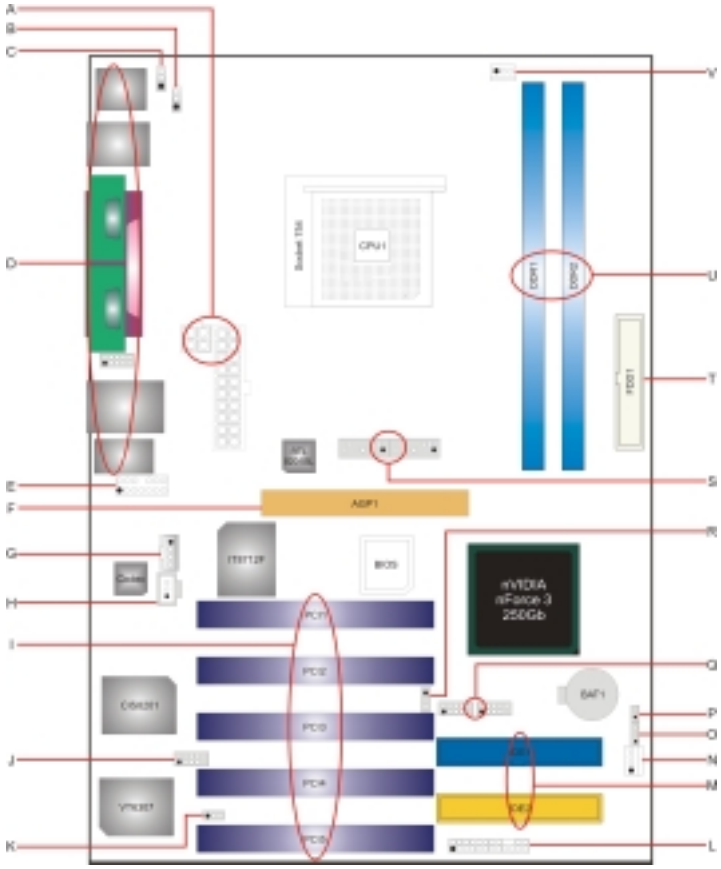


Note:

1. ● represents the 1st pin.

2. *: JCOM2 and JCOM3 are optional, and only one of them can be chosen.

1.3 COMPONENTS OF K8NHA GRAND



A. JATXPWR1~2: ATX power connectors.
B. JUSBV1: Power source for J1394_USB1.
C. JKBMSV1: Power source for JKBMS1.
D. Back panel connectors.
E. JAUDIO1: Audio out header.
F AGP1: Accelerated Graphics Port slot.
G. JCDIN1: CD-ROM audio-in header
H. JSPDIF_OUT: Digital audio out header (optional).
I. PCI1~5: Peripheral Component Interconnect slots.
J. J1394A1: Front 1394 header.
K. J1394V1: Power source for J1394A1.
L. JPANEL1: Front panel connector.
M. IDE1~2: Hard disk connectors.
N. JSFAN1: System fan connector.
O. JCMOS1: Clear CMOS Header.
P. JCI1: Case open Header.
Q. JUSB1~2: Front USB headers.
R. JUSBV3: Power source for JUSB1~2.
S. JSATA4~5: Serial ATA connectors.
T. FDD1: Floppy disk connector.
U. DDR1~2: DDR memory modules.
V. JCFAN1: CPU fan connector.

CHAPTER 2: HARDWARE INSTALLATION

2.1 CENTRAL PROCESSING UNIT (CPU)

Step 1: Pull the lever sideways away from the socket and then raise the lever up to a 90-degree angle.

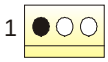
Step 2: Look for the black cut edge on socket, and the white dot on CPU should point fowards this black cut edge. The CPU will fit only in the correct orientation.

Step 3: Hold the CPU down firmly, and then close the lever to complete the installation.

Step 4: Put the CPU Fan on the CPU and buckle it. Connect the CPU FAN power cable to the JCFAN1. This completes the installation.

2.2 FAN HEADERS

CPU FAN Header: JCFAN1



JCFAN1

Pin	Assignment
1	Ground
2	+12V
3	FAN RPM rate sense

System Fan Header: JSFAN1

JSFAN1

Pin	Assignment
1	Ground
2	+12V
3	FAN RPM rate sense

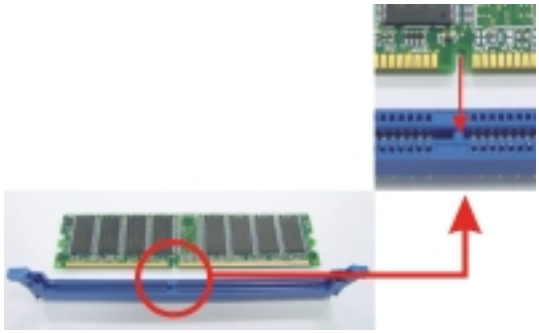
Note:

The JCFAN1 and JSFAN1support system cooling fan with Smart Fan Control utility. It supports 3 pin head connector. When connecting with wires onto connectors, please note that the red wire is the positive and should be connected to pin#2, and the black wire is Ground and should be connected to GND.

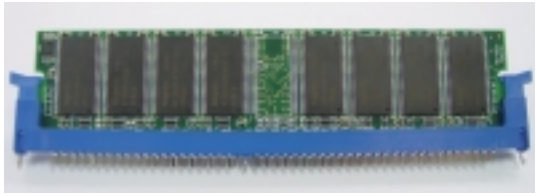
2.3 MEMORY MODULES INSTALLATION

2.2.1 DDR Module installation

1. Unlock a DIMM slot by pressing the retaining clips outward. Align a DIMM on the slot such that the notch on the DIMM matches the break on the Slot.



2. Insert the DIMM vertically and firmly into the slot until the retaining chip snap back in place and the DIMM is properly seated.



Note:

To assure the system safety, if you need to change DDR modules, firstly, please unplug the 20-pin power cable with the power connector, and then you can change the modules. Afterwards, plug in the cable the power connector again, and finally you can boot up the system.

2.4 CONNECTORS, & SLOTS

Floppy Disk Connector: FDD1

The motherboard provides a standard floppy disk connector that supports 360K, 720K, 1.2M, 1.44M and 2.88M floppy disk types. This connector supports the provided floppy drive ribbon cables.

Hard Disk Connectors: IDE1~2

The motherboard has a 32-bit Enhanced PCI IDE Controller that provides PIO Mode 0~5, Bus Master, and Ultra DMA 33/66/100/133 functionality. It has two HDD connectors IDE1 (primary) and IDE2 (secondary).

The IDE connectors can connect a master and a slave drive, so you can connect up to four hard disk drives. The first hard drive should always be connected to IDE1.

Peripheral Component Interconnect Slots: PCI1~5

This motherboard is equipped with 1 standard PCI slot. PCI stands for Peripheral Component Interconnect, and it is a bus standard for expansion cards. This PCI slot is designated as 32 bits.

Serial ATA Connector: JSATA4~5

The motherboard has a SATA Controller in nForce 3 250Gb with 2 channels SATA interface, it satisfies the SATA 1.0 spec and with transfer rate of 1.5Gb/s.

SATA4/SATA5

Pin	Assignment	Pin	Assignment
1	Ground	2	TX+
3	TX-	4	Ground
5	RX-	6	RX+
7	Ground		

CHAPTER 3: HEADERS & JUMPERS SETUP

3.1 HOW TO SETUP JUMPERS

The illustration shows how to set up jumpers. When the jumper cap is placed on pins, the jumper is “close”, if not, that means the jumper is “open”.

Pin opened

Pin closed

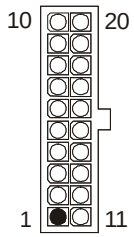
Pin1-2 closed

3.2 DETAIL SETTINGS

Power Connectors: JATXPWR1/PATXPWR2

JATXPWR1: This connector allows user to connect 20-pin power connector on the ATX power supply.

JATXPWR2: By connecting this connector, it will provide +12V to CPU power circuit.



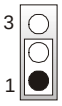
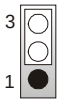
JATXPWR1

Pin	Assignment	Pin	Assignment
1	+3.3V	11	+3.3V
2	+3.3V	12	-12V
3	Ground	13	Ground
4	+5V	14	PS_ON
5	Ground	15	Ground
6	+5V	16	Ground
7	Ground	17	Ground
8	PW_OK	18	-5V
9	Standby Voltage +5V	19	+5V
10	+12V	20	+5V

JATXPWR2

Pin	Assignment	Pin	Assignment
1	+12V	3	Ground
2	+12v	4	Ground

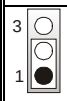
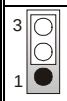
Power Source Selection for USB: JUSBV1/JUSBV3

JUSBV1/JUSBV3	Assignment	Description
 **Pin 1-2 close**	+5V	JUSBV1: +5V for USB at the J1394_USB1 and JUSBLAN1 connector ports. JUSBV3: +5V for USB at the JUSB 1~2 connector ports.
 **Pin 2-3 close**	+5V standby Voltage	JUSBV1: J1394_USB1 and JUSBLAN1 ports powered with standby voltage of +5V JUSBV3: JUSB1~2 ports powered with standby voltage of 55V

Note:

In order to support this function "Power-on system via USB device," "JUSBV1/JUSBV3" jumper cap should be placed on Pin 2-3 individually.

Power Source Selection for Keyboard/Mouse: JKBMSV1

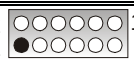
JKBMSV1	Assignment	Description
 **Pin 1-2 close**	+5V	+5V for keyboard and mouse
 **Pin 2-3 close**	+5V Standby Voltage	PS/2 mouse and PS/2 keyboard are powered with +5V standby voltage.

Note:

In order to support this function "Power-on system via keyboard and mouse", "JKBMSV1" jumper cap should be placed on Pin 2-3.

COM2 Header: JCOM2 (Optional)

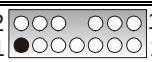
This header allows user to connect additional serial cable on the PC back panel. It can be used to connect serial devices, for example, mouse or modem.

 **JCOM2-Header**

Pin	Assignment	Pin	Assignment
1	RIN1	2	RIN3
3	DOUT2	4	DOUT3
5	Ground	6	RIN2
7	DOUT1	8	RIN4
9	-XRI1	10	NA

Front Panel Audio Out Header: JAUDIO1

This connector will allow user to connect with the front audio out put headers on the PC case. It will disable the output on back panel audio connectors.

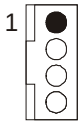


JAUDIO1

Pin	Assignment	Pin	Assignment
1	Mic in/center	2	Ground
3	Mic power/Bass	4	Audio power
5	Right line out/Speaker out Right	6	Right line out/Speaker out Right
7	Reserved	8	Key
9	Left line out/Speaker out Left	10	Left line out/Speaker out Left
11	Right line in/Rear speaker Right	12	Right line in/Rear speaker Right
13	Left line in/Rear speaker Left	14	Left line in/Rear speaker Left

CD-ROM Audio-in Header: JCDIN1

This connector allows user to connect the audio source from the veriaty devices, like CD-ROM, DVD-ROM, PCI sound card, PCI TV turner card etc..

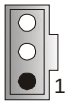


JCDIN1

Pin	Assignment
1	Left channel input
2	Ground
3	Ground
4	Right channel input

Digital Audio Out Connector: JSPDIF_OUT (optional)

This connector will allow user to connect the PCI bracket SPDIF output header.

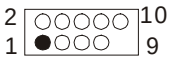


JSPDIF_OUT

Pin	Assignment
1	+5V
2	SPDIF OUT
3	Ground

Front 1394 Header: J1394A1

This connector allows user to connect the front 1394 port for digital image devices.



J1394A1

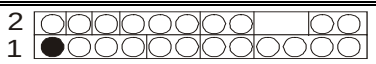
Pin	Assignment	Pin	Assignment
1	A+	2	A-
3	Ground	4	Ground
5	B+	6	B-
7	+12v	8	+12V
9	Key	10	Ground

Power Source for 1394: J1394V1

J1394V1	Assignment	Description
Pin 1-2 close	+3.3V SB	+3.3V SB for 1394 chipset.
Pin 2-3 close	+3.3V	+3.3V for 1394 chipset. (Default)

Front Panel Connector: JPANEL1

This 24-pin connector includes Power-on, Reset, HDD LED, Power LED, Sleep button, speaker and IrDA Connection. It allows user to connect the PC case's front panel switch functions.



JPANEL1

Pin	Assignment	Function	Pin	Assignment	Function
1	+5V	Speaker Connector	2	Sleep control	Sleep button
3	N/A		4	Ground	
5	N/A		6	N/A	N/A
7	Speaker		8	Power LED (+)	Power LED
9	HDD LED (+)	Hard drive LED	10	Power LED (+)	
11	HEE LED (-)		12	Power LED (-)	
13	Ground	Reset button	14	Power button	Power-on button
15	Reset control		16	Ground	
17	N/A		18	Key	
19	N/A	IrDA Connector	20	Key	IrDA Connector
21	+5V		22	Ground	
23	IRTX		24	IRRX	

Close CMOS Jumper: JCMOS1

By placing the jumper on pin2-3, it allows user to restore the BIOS safe setting and the CMOS data, please carefully follow the procedures to avoid damaging the motherboard.

JCMOS1	Assignment
Pin 1-2 close	Normal Operation (Default).
Pin 2-3 close	Clear CMOS data.

※ Clear CMOS Procedures:

1. Remove AC power line.
2. Set the jumper to "Pin 2-3 close".
3. Wait for five seconds.
4. Set the jumper to "Pin 1-2 close".

5. Power on the AC.
6. Reset your desired password or clear the CMOS data.

Case Open Connector: JCI1

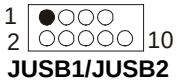
This connector allows system to monitor PC case open status. If the signal has been triggered, it will record to the CMOS and show the message on next boot-up.

JCI1

Pin	Assignment
1	Case open signal
2	Ground

Front USB Header: JUSB1~2

This connector allows user to connect additional USB cables on the PC front panel. Also can be connected with internal USB devices, like USB card reader.



JUSB1/JUSB2

Pin	Assignment	Pin	Assignment
1	+5V (fused)	2	+5V (fused)
3	USB-	4	USB-
5	USB+	6	USB+
7	Ground	8	Ground
9	Key	10	NC

CHAPTER 4: USEFUL HELP

4.1 AWARD BIOS BEEP CODE

Beep Sound	Meaning
One long beep followed by two short beeps	Video card not found or video card memory bad
High-low siren sound	CPU overheated System will shut down automatically
One Short beep when system boot-up	No error found during POST
Long beeps every other second	No DRAM detected or install

4.2 TROUBLESHOOTING

Probable	Solution
1. No power to the system at all Power light don't illuminate, fan inside power supply does not turn on. 2. Indicator light on keyboard does not turn on.	1. Make sure power cable is securely plugged in. 2. Replace cable. 3. Contact technical support.
System inoperative. Keyboard lights are on, power indicator lights are lit, and hard drive is spinning.	Using even pressure on both ends of the DIMM, press down firmly until the module snaps into place.
System does not boot from hard disk drive, can be booted from optical drive.	1. Check cable running from disk to disk controller board. Make sure both ends are securely plugged in; check the drive type in the standard CMOS setup. 2. Backing up the hard drive is extremely important. All hard disks are capable of breaking down at any time.
System only boots from optical drive. Hard disk can be read and applications can be used but booting from hard disk is impossible.	Back up data and applications files. Reformat the hard drive. Re-install applications and data using backup disks.
Screen message says "Invalid Configuration" or "CMOS Failure."	Review system's equipment. Make sure correct information is in setup.
Cannot boot system after installing second hard drive.	Set master/slave jumpers correctly. Run SETUP program and select correct drive types. Call the drive manufacturers for compatibility with other drives.

CHAPTER 5: NVIDIA RAID FUNCTION

5.1 OPERATION SYSTEM

- Windows XP home Edition
- Windows XP Professional Edition
- Windows 2000 Professional

5.2 RAID ARRAYS

NVRAID supports the following types of RAID arrays:

RAID 0:

RAID 0 defines a disk striping scheme that improves disk read and writes times for many applications.

RAID 1:

RAID 1 defines techniques for mirroring data.

RAID 0+1:

RAID 0+1 combines the techniques used in RAID 0 and RAID 1.

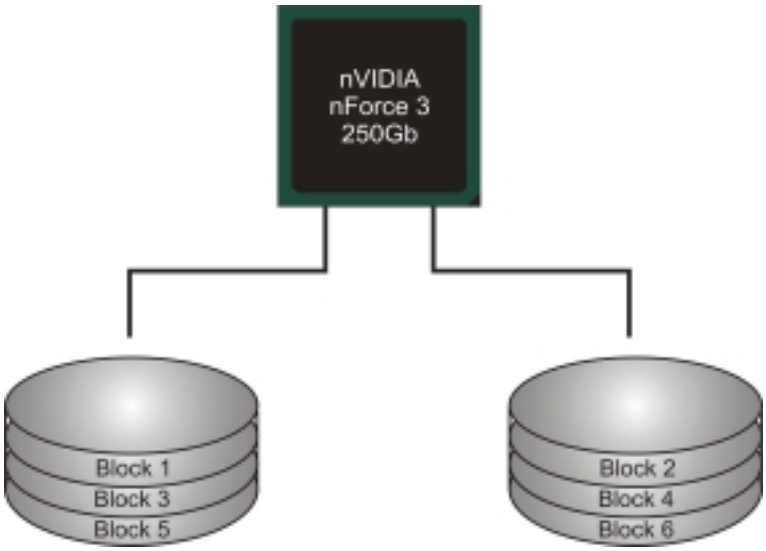
Spanning (JBOD):

JBOD provides a method for combining drives of different sizes in to one large disk.

5.3 How RAID Works

RAID 0:

The controller "stripes" data across multiple drives in a RAID 0 array system. It breaks up a large file into smaller blocks and performs disk reads and writes across multiple drives in parallel. The size of each block is determined by the strip size parameter, which you set during the creation of the RAID set based on the system environment. This technique reduces overall disk access time and offers high bandwidth.



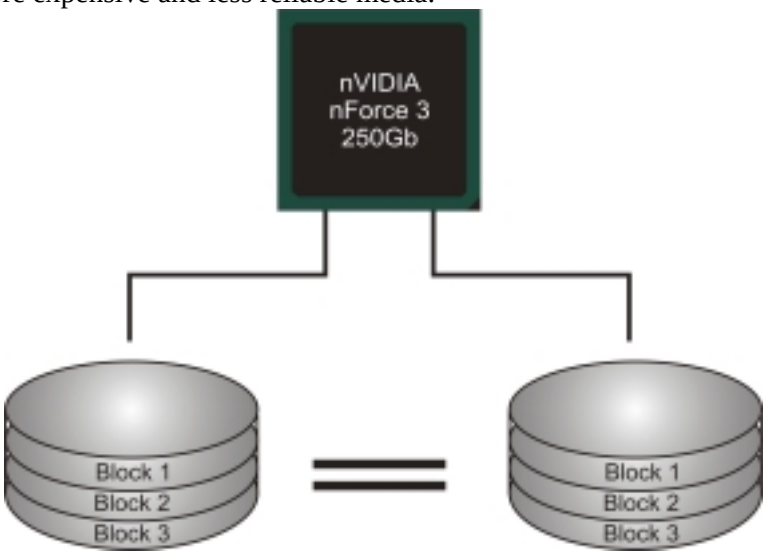
Features and Benefits

- ***Drives:*** Minimum 1, and maximum is up to 6 or 8. Depending on the platform.
- ***Uses:*** Intended for non-critical data requiring high data throughput, or any environment that does not require fault tolerance.
- ***Benefits:*** provides increased data throughput, especially for large files. No capacity loss penalty for parity.
- ***Drawbacks:*** Does not deliver any fault tolerance. If any drive in the array fails, all data is lost.
- ***Fault Tolerance:*** No.

RAID 1:

Every read and write is actually carried out in parallel across 2 disk drives in a RAID 1 array system. The mirrored (backup) copy of the data can reside on the same disk or on a second redundant drive in the array. RAID 1 provides a hot-standby copy of data if the active volume or drive is corrupted or becomes unavailable because of a hardware failure.

RAID techniques can be applied for high-availability solutions, or as a form of automatic backup that eliminates tedious manual backups to more expensive and less reliable media.

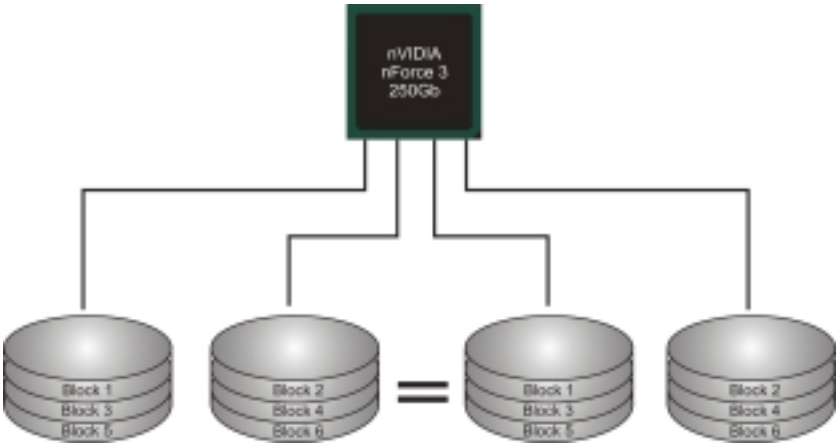


Features and Benefits

- ***Drives:*** Minimum 2, and maximum is 2.
- ***Uses:*** RAID 1 is ideal for small databases or any other application that requires fault tolerance and minimal capacity.
- ***Benefits:*** Provides 100% data redundancy. Should one drive fail, the controller switches to the other drive.
- ***Drawbacks:*** Requires 2 drives for the storage space of one drive. Performance is impaired during drive rebuilds.
- ***Fault Tolerance:*** Yes.

RAID 0+1:

RAID 0 drives can be mirrored suing RAID 1 techniques. Resulting in a RAID 0+1 solution for improved performance plus resiliency.

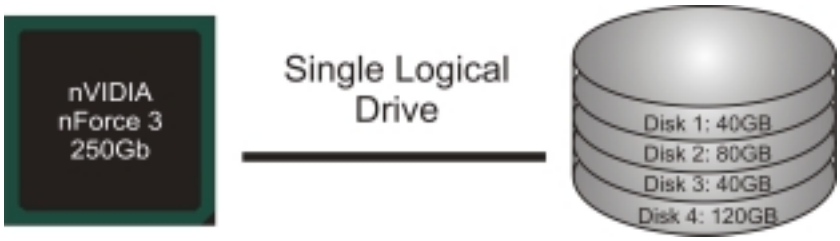


Features and Benefits

- ***Drives:*** Minimum 4, and maximum is 6 or 8, depending on the platform.
- ***Benefits:*** Optimizes for both fault tolerance and performance, allowing for automatic redundancy. May be simultaneously used with other RAID levels in an array, and allows for spare disks.
- ***Drawbacks:*** Requires twice the available disk space for data redundancy, the same as RAID level 1.
- ***Fault Tolerance:*** Yes.

Spanning (JBOD):

JBOD stands for "Just a Bunch of Disks". Each drive is accessed as if it were on a standard SCSI host bus adapter. This is useful when a single drive configuration is needed, but it offers no speed improvement or fault tolerance.



Features and Benefits

- ***Uses:*** JBOD works best if you have odd sized drives and you want to combine them to make one big drive.
- ***Benefits:*** JBOD provides the ability to combine odd size drives using all of the capacity of the drives.
- ***Drawbacks:*** Decreases performance because of the difficulty in using drives concurrently.
- ***Fault Tolerance:*** Yes.

※ For more detailed setup information, please refer to the Driver CD.

CHAPTER 6: WARPSPEEDER™

6.1 INTRODUCTION

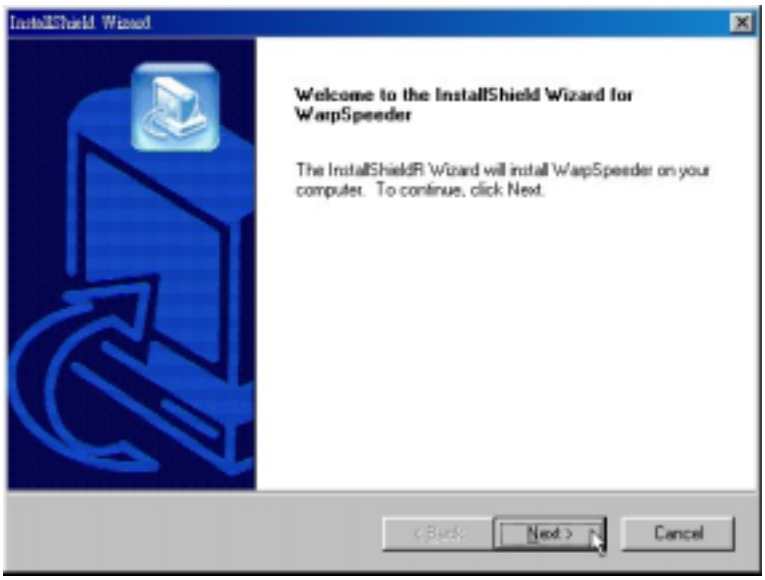
[WarpSpeeder™], a new powerful control utility, features three user-friendly functions including Overclock Manager, Overvoltage Manager, and Hardware Monitor.
With the Overclock Manager, users can easily adjust the frequency they prefer or they can get the best CPU performance with just one click. The Overvoltage Manager, on the other hand, helps to power up CPU core voltage and Memory voltage. The cool Hardware Monitor smartly indicates the temperatures, voltage and CPU fan speed as well as the chipset information. Also, in the About panel, you can get detail descriptions about BIOS model and chipsets. In addition, the frequency status of CPU, memory, AGP and PCI along with the CPU speed are synchronically shown on our main panel.
Moreover, to protect users' computer systems if the setting is not appropriate when testing and results in system fail or hang, [WarpSpeeder™] technology assures the system stability by automatically rebooting the computer and then restart to a speed that is either the original system speed or a suitable one.

6.2 SYSTEM REQUIREMENT

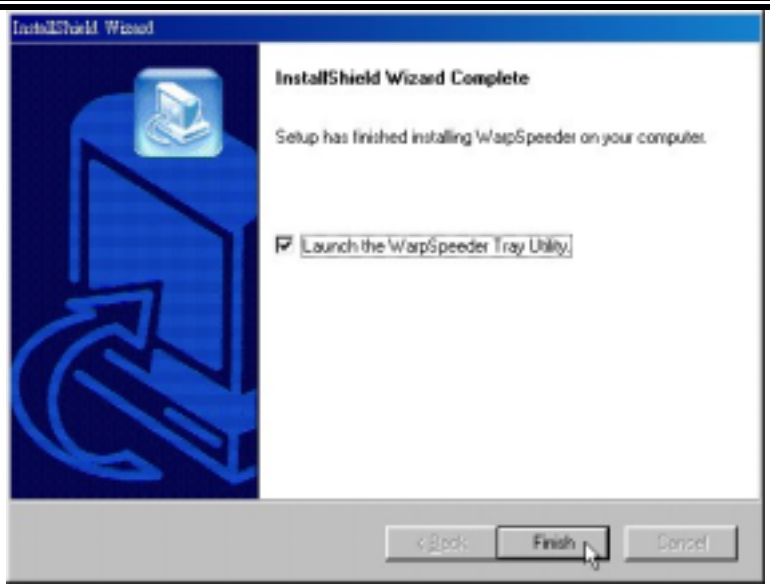
OS Support: Windows 98 SE, Windows Me, Windows 2000, Windows XP
DirectX: DirectX 8.1 or above. (The Windows XP operating system includes DirectX 8.1. If you use Windows XP, you do not need to install DirectX 8.1.)

6.3 INSTALLATION

1. Execute the setup execution file, and then the following dialog will pop up. Please click “Next” button and follow the default procedure to install.


InstallShield Wizard
Welcome to the InstallShield Wizard for WarpSpeeder
The InstallShield® Wizard will install WarpSpeeder on your computer. To continue, click Next.
< Back
Next >
Cancel

2. When you see the following dialog in setup procedure, it means setup is completed. If the “Launch the WarpSpeeder Tray Utility” checkbox is checked, the Tray Icon utility and [WarpSpeeder™] utility will be automatically and immediately launched after you click “Finish” button.



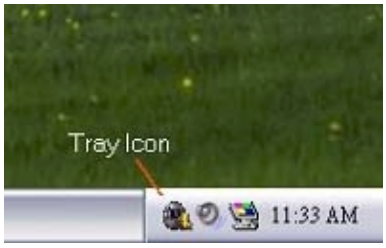
Usage:

The following figures are just only for reference, the screen printed in this user manual will change according to your motherboard on hand.

[WarpSpeeder™] includes 1 tray icon and 5 panels:

1. **Tray Icon:**

   Whenever the Tray Icon utility is launched, it will display a little tray icon on the right side of Windows Taskbar.



This utility is responsible for conveniently invoking [WarpSpeeder™] Utility. You can use the mouse by clicking the left button in order to invoke [WarpSpeeder™] directly from the little tray icon or you can right-click the little tray icon to pop up a popup menu as following figure. The “Launch Utility” item in the popup menu has the same function as mouse left-click on tray icon and “Exit” item will close Tray Icon utility if selected.

2. Main Panel

If you click the tray icon, [WarpSpeeder™] utility will be invoked. Please refer to the following figure; the utility's first window you will see is Main Panel.

Main Panel contains features as follows:

a. Display the CPU Speed, CPU external clock, Memory clock, AGP clock, and PCI clock information.

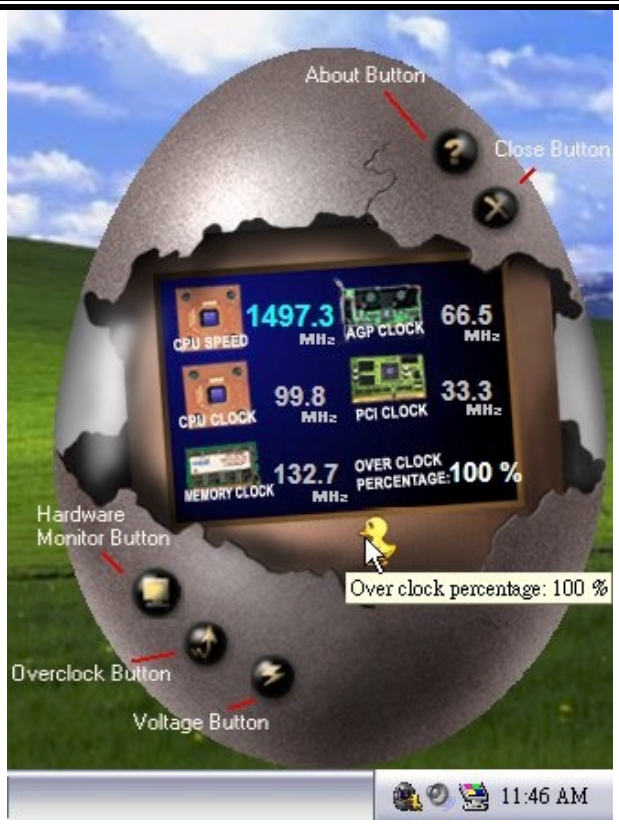
b. Contains About, Voltage, Overclock, and Hardware Monitor Buttons for invoking respective panels.

c. With a user-friendly Status Animation, it can represent 3 overclock percentage stages:

Man walking→overclock percentage from 100% ~ 110 %

Panther running→overclock percentage from 110% ~ 120%

Car racing→overclock percentage from 120% ~ above



3. Voltage Panel

Click the Voltage button in Main Panel, the button will be highlighted and the Voltage Panel will slide out to up as the following figure.

In this panel, you can decide to increase CPU core voltage and Memory voltage or not. The default setting is “No”. If you want to get the best performance of overclocking, we recommend you click the option “Yes”.

4. Overclock Panel

Click the Overclock button in Main Panel, the button will be highlighted and the Overclock Panel will slide out to left as the following figure.

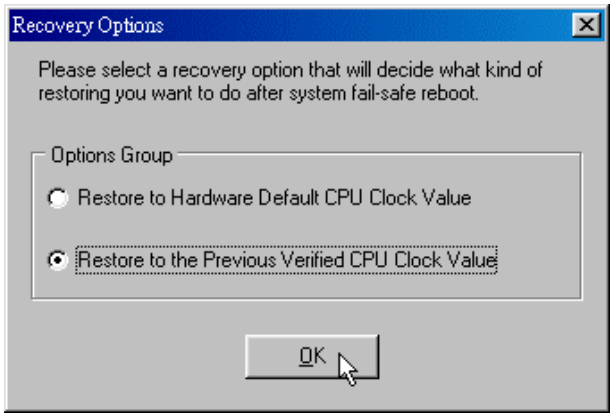
Overclock Panel contains the these features:

a. "–3MHz button", "-1MHz button", "+1MHz button", and "+3MHz button": provide user the ability to do real-time overclock adjustment.

Warning:

Manually overclock is potentially dangerous, especially when the overclocking percentage is over 110 %. We strongly recommend you verify every speed you overclock by click the Verify button. Or, you can just click Auto overclock button and let [WarpSpeeder™] automatically gets the best result for you.

b. "Recovery Dialog button": Pop up the following dialog. Let user select a restoring way if system need to do a fail-safe reboot.


Recovery Options
Please select a recovery option that will decide what kind of restoring you want to do after system fail-safe reboot.
Options Group
Restore to Hardware Default CPU Clock Value
Restore to the Previous Verified CPU Clock Value
OK

c. "Auto-overclock button": User can click this button and [WarpSpeeder™] will set the best and stable performance

and frequency automatically. [WarpSpeeder™] utility will execute a series of testing until system fail. Then system will do fail-safe reboot by using Watchdog function. After reboot, the [WarpSpeeder™] utility will restore to the hardware default setting or load the verified best and stable frequency according to the Recovery Dialog's setting.

d. "Verify button": User can click this button and [WarpSpeeder™] will proceed a testing for current frequency. If the testing is ok, then the current frequency will be saved into system registry. If the testing fail, system will do a fail-safe rebooting. After reboot, the [WarpSpeeder™] utility will restore to the hardware default setting or load the verified best and stable frequency according to the Recovery Dialog's setting.

Note:

Because the testing programs, invoked in Auto-overclock and Verify, include DirectDraw, Direct3D and DirectShow tests, the DirectX 8.1 or newer runtime library is required. And please make sure your display card's color depth is High color (16 bit) or True color(24/32 bit) that is required for Direct3D rendering.

5. Hardware Monitor Panel

Click the Hardware Monitor button in Main Panel, the button will be highlighted and the Hardware Monitor panel will slide out to left as the following figure.

In this panel, you can get the real-time status information of your system. The information will be refreshed every 1 second.

6. About Panel

Click the "about" button in Main Panel, the button will be highlighted and the About Panel will slide out to up as the

following figure.
In this panel, you can get model name and detail information in hints of all the chipset that are related to overclocking. You can also get the mainboard's BIOS model and the Version number of [WarpSpeeder™] utility.

Note:
Because the overclock, overvoltage, and hardware monitor features are controlled by several separate chipset, [WarpSpeeder™] divide these features to separate panels. If one chipset is not on board, the correlative button in Main panel will be disabled, but will not interfere other panels' functions. This property can make [WarpSpeeder™] utility more robust.

07/30, 2004